

3/5 013  
CIRC ACCESSION NO--AN0141545  
ABSTRACT/EXTRACT--THE LEADERS OF MIRZOYEV'S GROUP, A FORMER STUDENT AT THE  
TASHKENT STATE UNIVERSITY PHYSICAL MATHEMATICAL FACULTY, HAD THE IDEA OF  
STUDYING THE QUESTIONS OF MODELING SEISMIC PROCESSES FROM THE  
OBSERVATIONS OF USSR ACADEMY OF SCIENCES GEOPHYSICAL INSTITUTE SENIOR  
SCIENTIFIC WORKER S. D. VINOGRADOV. IT HAS BEEN ESTABLISHED THAT THE  
LAWS GOVERNING HETEROGENEOUS MEDIA ON DIFFERENT SCALES ARE SIMILAR TO  
EACH OTHER. ON THE BASIS OF THE WELL KNOWN LAW OF SEISMOLOGY CALLED THE  
"RECURRENCE CHART," WHICH HAS BEEN CONFIRMED BY LABORATORY EXPERIMENTS,  
IT HAS PROVED POSSIBLE TO DRAW CONCLUSIONS ABOUT SEISMIC PHENOMENA UNDER  
NATURAL CONDITIONS. THIS IDEA HAS ALSO BEEN CONFIRMED BY JAPANESE  
SEISMOLOGIST KIO MOGI. MIRZOYEV'S MEETING WITH VINOGRADOV LAID THE  
FOUNDATION FOR TADZHIKISTAN SEISMOLOGY, WHICH THEY CALLED "SMALL," AS  
DISTINGUISHED FROM "LARGE;" THE LATTER IS CONCERNED WITH STUDYING EARTH  
TREMORS UNDER NATURAL CONDITIONS. THE ADVANTAGES OF "SMALL" SEISMOLOGY  
BEGAN TO MAKE THEMSELVES FELT IMMEDIATELY. NATURAL RESEARCH DEMANDS  
GREAT EXPENDITURE AND DEALS WITH UNFINISHED PHENOMENA. IN THE  
LABORATORY IT IS POSSIBLE TO OBTAIN IN A SHORT PERIOD THE ENTIRE PROCESS  
FROM BEGINNING TO END, A PROCESS WHICH OCCASIONALLY LASTS HUNDREDS AND  
THOUSANDS OF YEARS IN NATURE. YOUNG SCIENTISTS MIRZOYEV AND  
POSTGRADUATE SALOMOV ARE STUDYING A MOST COMPLEX PROBLEM OF MODERN  
SCIENCE, INCIDENTALLY, THE TADZHIK INSTITUTE IS THE ONLY SCIENTIFIC  
ESTABLISHMENT IN THE USSR WHICH IS CONDUCTING LABORATORY RESEARCH INTO  
SEISMIC CONDITIONS, IN SEVERAL DIRECTIONS.

PROCESSING DATE--04DEC70

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PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AN0141545

ABSTRACT/EXTRACT--WITH THE AID OF A SPECIAL PRESS AFFECTING VARIOUS TYPES OF ROCK WITH VARIOUS RATES OF DEFORMATION AND VARIOUS METHODS UNDER CONDITIONS WHICH ARE CLOSE AS POSSIBLE TO NATURAL CONDITIONS, THE SCIENTISTS HAVE OBTAINED A NUMBER OF SATISFACTORY ANSWERS. THE AMOUNT OF ENERGY OF THE ROCK BURSTS HAVE PROVED PROPORTIONATE TO THE RATE OF TENSION BUILDUP. HENCE THE CONCLUSION THAT RATE IS A DECISIVE FACTOR IN THE AMOUNT OF ENERGY IN BURSTS. ON THIS BASIS "LARGE" SEISMOLOGY HAS OBTAINED A DEFINITE DIRECTION FOR RESEARCH. IT HAS ALSO BEEN DISCOVERED THAT THE POWER OF A BURST VARIES IN DIFFERENT ROCKS. WHERE ROCK IS MORE DURABLE, THERE IS A GREATER PROBABILITY OF VIOLENT EARTH TREMORS. THE SCIENTISTS ARE ATTEMPTING TO DETERMINE THE SIZE OF THE AREA RESPONSIBLE FOR AN EARTH TREMOR. IT IS INTERESTING THAT THE SEISMICITY OF ONE OF THE BIGGEST EARTH TREMORS IN TADZHIKISTAN, AT KHAITA, CAN BE COMPARED WITH THE ANNUAL CAPACITY OF THE KRASNOYARSK HYDROELECTRIC POWER STATION.

HOW MUCH POTENTIAL ENERGY THERE IS UNDER THE EARTH AND HOW IT IS DISTRIBUTED, THESE QUESTIONS STILL REMAIN UNANSWERED. A DEFINITE ROLE IN THEIR RESOLUTION WILL BE PLAYED BY THE EXPERIMENTS ON GRANITIC MATERIALS WHICH THE MODELING GROUP NOW PLANS TO CONDUCT. THEN IT WILL BE POSSIBLE TO GIVE A MORE DEFINITIVE ANSWER TO THE QUESTION OF WHAT VOLUME OF MOUNTAIN MASS IS RESPONSIBLE FOR EARTH TREMORS OF DIFFERENT FORCE. THIS IS OF GREAT SIGNIFICANCE IN SEISMIC ZONING. THE EXPERIMENTS ARE CONTINUING. THE PATHS OF KNOWLEDGE ARE STRANGE AND OCCASIONALLY INSCRUTABLE.

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5/5 013

CIRC ACCESSION NO--ANO141545

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--STARRY WORLDS WHICH ARE SO VERY REMOTE FROM PEOPLE AND  
THEIR VITAL PROBLEMS BEGAN TO BE INVESTIGATED MUCH EARLIER AND, TO A  
GREAT EXTENT, STUDIED MORE FULLY THAN THINGS UNDER OUR FEET WHICH  
HABITUALLY CAUSE INCALCULABLE SORROW. BUT THE NEW SCIENCE OF SEISMOLOGY  
IS BEGINNING TO HAVE ITS EFFECT, AND WE, THE CONTEMPORARIES OF ITS  
EMERGENCE AND ESTABLISHMENT, MAY VERY SOON BE THE WITNESSES OF VICTORIES  
OVER THE FORCES OF NATURE.

UNCLASSIFIED

USSR

SHTEYN, A. B.

UDC 621.397:535.67

"Effect of Pulse Voltages on Color Signals Encoded by the SECAM System"

Vopr. radioelektroniki. Nauchno-tekhn. sb. Tekhn. televideniya (Problems of Radio Electronics. Scientific and Technical Collection. Television Equipment), 1970, vyp. 1, pp 72-79 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9C87)

Translation: This article contains an investigation of the transient processes occurring in devices for decoding color signals of the SECAM system under the effect of pulse voltage with a finite buildup time. An estimate of the frequency modulation of the color subcarrier occurring during interaction of the transient process and color signals is presented.

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USSR

DAVNIS, V. V., RUSSMAN, I. V. and SHTEYN, B. Ye.  
"One Method of Classification"

Vopr. Optimal'n. Programmir. v Proizv. Zadachakh [Problems of Optimal Programming in Production Problems -- Collection of Works], Voronezh, 1972, pp 105-117 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V545).

Translation: The following interpretation of the class of "similar objects" is studied. Suppose there is a finite set of objects, each of which is described by a fixed set of characteristics. Among all possible permissible subdivisions of this set of objects into classes, the problem is to find that, the classes of which satisfy the following condition. For an arbitrarily selected object of a certain class, at least one object of the same class must be found, the interrelationship with which is stronger than with any object not belonging to this class.

The problem of subdivision into classes (in terms of graph theory) is formalized for this interpretation. The authors present the following Theorem 1. The different distances between the subsets of all possible division of set  $R = \{1, 2, \dots, N\}$  into two classes number not over  $N-1$ , and

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USSR

Davnis, V. V., Russman, I. V. and Shteyn, B. Ye., Vopr. Optimal'n. Programmir. v. Proizv. Zadachakh, Voronezh, 1972, pp 105-117.

they are all realized on the lines of the tree of minimum distances (TMD).

Using this theorem, the authors reduce the solution of the problem stated to the construction of a TMD and determination of the lines of maximum length. A classification algorithm is described, based on the construction of TMD, for which a program was written for a Minsk-22 computer. The problem, requiring subdivision of 270 objects, each of which is described by 10 characteristics, into classes, was solved in 20 minutes.

Yu. Finkel'shteyn

USSR

UDC 669.15-194:669.295:621.785.6:  
:539.389.3:620.183.6

GRINBERG, B. G., PASHKOV, P. P., PINCHUK, P. A., KNYSHEV, Yu. V.,  
and SHTEYN, L. M., All-Union Correspondence Construction Engineer-  
ing Institute

"X-Ray Microanalysis of the Diffusion Layer in Titanium-Steel  
Bimetal"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallur-  
giya, No 7, 1973, pp 133-135

Abstract: Investigation results are presented of diffusion proces-  
ses in the bimetal VT1-1 titanium + EI702(N36TYu) alloy. The bime-  
tal was produced by means of joint rolling of EI702 alloy, heated  
in argon, with cold VT1-1 titanium. The thickness of the bimetal  
was 0.12-1.2 mm, that of the covering was 10% of this. Parts  
from the bimetal were hardened from 950-1000°C and subjected to  
hardening temper (aging) at 650-700°C for 2-6 hrs. The redis-  
tribution of iron, nickel, and chromium from EI702 alloy into  
VT1-1 titanium was determined. By comparison of the microhardness,

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GRINBERG, B. G., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 7, 1973, pp 133-135

the electron-topography, and the characteristic K-ray radiation with concentration redistribution curves of iron, nickel, and chromium, the character and regularities of the formation of diffusion zones in the process of production and of heat treatment of the bimetal were exposed. One figure, three bibliographic references.

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B. Graph Theory

USSR

ZAYTSEVA, Zh. N., SHTeyN, M. Ye.

"One Method of Construction of the Shortest Closed Path in a Graph"

Vychisl. Tekhnika, T. 3 [Computer Technology, Vol 3 -- Collection of Works], Kaunas, 1972, pp 417-422 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V406, by V. Zemlyachenko).

Translation: The following problem is studied: convert a given graph into a graph permitting Euler cycles by introduction of additional lines with the minimum possible total length. This problem arises, for example, in minimization of the number of idle motions of a plotter. An approximate algorithm is suggested and data are presented on the effectiveness of the algorithm as run on a computer.

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USSR

UDC 681.3

PUCHIN'YAN, V. K., SHEIN, P. D., SHTEYN, M. Ye.

"Problem of Optimal Division of a Graph and Arrangement of Digital Computer Devices"

Sistemy Raspredeleniya Resursov na Grafakh [Systems for Distribution of Resources on Graphs -- Collection of Works], Moscow, Acad. Sci. USSR Computer Center, 1970, pp 118-126, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V574 by O. Belkin).

Translation: One problem of modular planning of digital computers is studied. A circuit is to be represented, fixed on a structural level by a set of modules of the next level so that the number of connections between the modules is minimal. The plan of the device is fixed by an equivalent graph, the points of which correspond to modules in the initial circuit. The lines of the graph are identified with the connections between modules. Further, the problem of division of the system is reduced to the problem of division of its equivalent graph. The algorithm for division consists of organization of an ordered selection of all possible sets of line numbers, i.e. all possible divisions, satisfying certain conditions. The division satisfying these conditions is considered optimal. The algorithm suggested was programmed on the M-220 digital computer. The time of solution of the problem remains within permissible limits with 20-30 points on the graph.

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--PREPARATION OF BLOCK COPOLYMERS OF PROPYLENE AND APHYA OLEFINS -U-  
AUTHOR--(05)-YAKOBSON, F.I., AMERIK, V.V., PETROVA, V.f., SHTEYNBAK, V.SH.,  
IVANYUKOV, D.V.  
COUNTRY OF INFO--USSR  
SOURCE--PLAST. MASSY 1970, (3), 11-13  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COPOLYMER, PROPYLENE, CATALYTIC POLYMERIZATION, TITANIUM  
CHLORIDE, INTRINSIC VISCOSITY, ETHYLENE, ISOBUTENE, STYRENE,  
CYCLOHEXANE, FREEZING, IMPACT. STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1986/0259

STEP NO--UR/0191/70/000/003/0011/0013

CIRC ACCESSION NO--AP0102309

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70  
 CIRC ACCESSION NO--AP0102309  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF REACTION  
 CONDITIONS (TIME (5 MIN, 5 HR), CONC. OF MONOMER AND TICI SUB3, MACRO  
 CHAINS IN POLYMN. OF PROPYLENE (III) (MIXED WITH PROPANE) CATALYZED BY  
 4:1 ET SUB2 ALCL AND TICI SUB3 MIXTS. WAS STUDIED. MOL. WTS., CALCD.  
 FROM POLYMER INTRINSIC VISCOSITY DETNS. IN DECALIN, INCREASED ABRUPTLY  
 WITH REACTION TIME AND TEMP. WHETHER MONOMER CONC. WAS DECREASING OR  
 CONST. INCREASING TICI SUB3 CONC. (0.4 TO 3.5 TIMES 10 PRIME NEGATIVE 2  
 MOLE-1.) DID NOT INFLUENCE CHAIN VIABILITY, BUT DECREASED INTRINSIC  
 VISCOSITY, PROBABLY DUE TO INCREASED NOS. OF ACTIVE CENTERS. THE LINEAR  
 DEPENDENCE OF POLYMER YIELD ON MOL. WT. AT DIFFERENT REACTION TIMES AND  
 TICI SUB3 CONCNS., EXCLUDING INITIAL NON STEADY STATE REGIONS, INDICATED  
 FREEDOM FROM MOL. CHAIN TERMINATION AND AFFIRMED THE EXISTENCE OF LIVING  
 MACROMOLS. IN THE SYSTEM. SUCCESSIVE POLYMN. OF II WITH ETHYLENE (0.13  
 TO 1PERCENT), ISOBUTYLENE (III) (4 TO 4.8PERCENT), VINYL CYCLOHEXANE, AND  
 STYRENE (1 TO 1.2PERCENT) AND III (3 TO 4.1PERCENT) GAVE BLOCK  
 COPOLYMERS HAVING RESISTANCE TO FREEZING IMPACT STRENGTH 2 TO 4 AND 2  
 TO 3 TIMES, RESP., GREATER THAN THOSE OF I.

UNCLASSIFIED

USSR

UDC: 541.124

MERZHANOV, A. G., SHTEYNBERG, A. S., and GONCHAROV, Ye. P.

"Peculiarities of High-Temperature Dissociation of Ammonium Perchlorate and Heterogeneous Systems Derived from it"

Novosibirsk, Fizika gorennya i vzryva, No 2, 1973, pp 185-191

Abstract: The purpose of this theoretical article is to analyze the effect of dissociative sublimation on the macrokinetic high-temperature decomposition of ammonium perchlorite (APC) and model mixtures derived from it. Dissociative sublimation is the distinctive peculiarity of APC decomposition. The method of the authors is to use the physical representations of the "volume vaporization" effect developed in an earlier article (A. G. Merzhanov, et al, FGV, 4, 4, 1968) in the decomposition process of volatile explosive materials in the condensed phase. Although APC does not melt at temperatures below 550° C, the general run of its decomposition is similar to that of secondary explosive materials. The present article examines the effect of pressure on APC high-temperature decomposition and the decomposition of APC-polymer mixtures. Tables are given for experimentally determined values of the thermal effects of the decomposition, and for the

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USSR

UDC: 541.124

MERZHANOV, A. G., et al, Fizika goreniya i vzryva, No 2, 1973, pp  
185-191

decomposition characteristics of the various mixtures considered.  
Both stages of the decomposition are discussed.

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USSR

UDC: 532.135

MERZHANOV, A. G., POSETEL'SKIY, A. P., STOLIN, A. M., SHTEYNBERG, A. S.,  
Affiliate of the Institute of Chemical Physics, Academy of Sciences of the  
USSR, Chernogolovka, Moskovskaya Oblast

"Experimental Realization of a Hydrodynamic Thermal Explosion"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 1, May 1973, pp 52-54

Abstract: In studying the problem of nonisothermal Poiseuille flow in a circular pipe with a given pressure gradient, it has been discovered that there is no stationary solution at certain values of the parameters. The phenomenon of hydrodynamic thermal explosion has been predicted on the basis of this theoretical research. It has also been theoretically demonstrated that this effect could arise in Couette flow with time-constant shear stress on a moving boundary. However, up until now this phenomenon had not been experimentally confirmed. In this paper the authors describe the successful realization of the conditions which produce this effect and give quantitative verification of the theory. The research was done on a rotation viscometer with pneumatic drive ensuring constant torque. The basic distinguishing feature of the installation is the design of the outer

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MERZHANOV, A. G. et al., Dokl. AN SSSR, May 73, Vol 210, pp 52-54

cylinder (see figure) which is made in the form of a Dewar flask with outer thermostatically controlled jacket 4. The inner rotating cylinder 1 is a hollow steel cup connected by ebonite rod 5 to the rotor of a small gas turbine. The diameter of the outer cylinder  $2R_1 = 4.84$  cm, the diameter of the inner cylinder  $2R_0 = 3.9$  cm, and the length of the inner cylinder  $l = 7.2$  cm. The gap 2 is filled with the liquid to be studied to a level somewhat higher than the top of the inner cylinder. The rpm  $n$  of the inner cylinder was measured by a perforated disc on the shaft and a photocell with output to a frequency meter. Temperature differential was measured by a thermocouple with one junction on the inside wall of the Dewar flask and the other inside the thermostatically controlled jacket. The resultant curves for temperature differential and rotational velocity as functions of time demonstrate the effect of hydrodynamic thermal explosion.

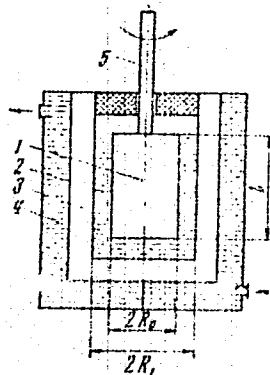
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MERZHANOV, A. G. et al., Dokl. AN SSSR, May 73, Vol 210, pp 52-54



1--inner cylinder; 2--fluid to be studied; 3--air space; 4--jacket with heat-transfer agent; 5--ebonite rod

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1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--CATALYST REGENERATION -U-

AUTHOR--(04)--PRISTAVKO, YE.V., SHUTOV, YU.M., SHTEYNBERG, B.I., SEMENOVA,  
T.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,358

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST REGENERATION, CHEMICAL PATENT, METAL OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3007/0842

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136276

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0136276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CATALYST, CONSISTING OF A MIXT. OF OXIDES OF AL, MG, MN, CR, ZN, CU AND (OR) FE, IS REGENERATED BY TREATING IT WITH A MIXT. CONTG. H SUB2 O VAPOR, N, AND O AT 350-500DEGREES.

UNCLASSIFIED

Construction

USSR

SHTEYNBERG, C. S., Institute of Vulcanology, Far East Scientific Center,  
Academy of Sciences, USSR, Petropavlovsk-Kamchatskiy

"The Explosive Formation of Calderas"

Moscow, Doklady Akademii Nauk SSSR, Vol 208, No 6, 1973, pp 1342-1345

Abstract: The formation of calderas as a result of a volcanic explosion is discussed on the basis of the theory of an outburst explosion. A formula linking the parameters of the explosion source, and those of the mechanism in which the explosion takes place, with the crater radius is applied to a calculation of the parameters characterizing the explosive forms of various volcanic objectives, mostly in Kamchatka and the Kurile Islands. It is shown that explosions which can lead to the formation of calderas take place at depths of less than 3.5 km, in other words, at the very topmost layers of the Earth's crust. At explosions with a power of  $5 \cdot 10^{26}$  ergs the maximum diameter of the crater cannot exceed 11 km; in other words, calderas with a diameter greater than 11 km cannot have been formed by explosive means. 3 figures. 2 tables. 12 references.

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1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--DETERMINATION OF THE OVERLAP FUNCTION FROM ELASTIC PROTON PROTON  
SCATTERING -U-  
AUTHOR-(03)-ANDREYEV, I.V., DREMIN, I.M., SHTEYNBERG, D.N.  
COUNTRY OF INFO--USSR  
SOURCE--YAD. FIZ. 1970, 11(2), 468-71  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--PROTON SCATTERING, ELASTIC SCATTERING, PARTICLE DIFFRACTION,  
CALCULATION  
CONTROL MARKING---NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1991/1039 STEP NO--UR/0367/70/011/002/0468/0471  
CIRC ACCESSION NO--AP0110729  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110729

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BEHAVIOR OF THE OVERLAP FUNCTION OUTSIDE THE DIFFRACTION CONE IS CONSIDERED. IT IS SHOWN HOW THE ELASTIC SCATTERING NEAR THE SCATTERING CONE (1 IS SMALLER THAN OR EQUAL TO T IS SMALLER TO OR EQUAL TO 6 (GEV-C) PRIME2) CAN PROVIDE INFORMATION ABOUT CHANGE OF THE GUASSIAN ANGULAR DEPENDENCE CHARACTERISTICS FOR THE OVERLAP FUNCTION AT SMALL ANGLES. NUMERICAL CALCN. OF THE OVERLAP FUNCTION IS PERFORMED BASED ON THE EXPTL. DATA ON ELASTIC PP SCATTERING AT ENERGIES OF 10.8 AND 19.2 GEV. FACILITY: FIZ. INST. IM. LEBEDEV, MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--DEVELOPMENT OF DYSBACTERIOSIS IN THE INTESTINES AND OTHER ORGANS OF  
SUBJECTS OCCUPATIONALLY EXPOSED TO THE EFFECT OF ANTIBIOTICS .  
AUTHOR--(02)-VILSHANSKAYA, F.L., SHTeyNBERG, G.B.  
COUNTRY OF INFO--USSR  
SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 5, PP  
25-28  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--INDUSTRIAL HYGIENE, STREPTOMYCIN, TETRACYCLINE, PENICILLIN,  
GASTROINTESTINAL SYSTEM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAmE--1995/0451 STEP NO--UR/0391/70/000/005/0025/0028  
CIRC ACCESSION NO--AP0116117  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116117

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ANTIBIOTICS INDUSTRY WORKERS ARE EXPOSED TO THE EFFECT OF THEIR DUST. MEDICAL EXAMINATION OF WORKERS AND BACTERIOLOGICAL ANALYSIS OF FECES AND THE NASAL, PHARYNGEAL, OCULAR AND VAGINAL MUCOSA REVEALED TROUBLES ON THE LEVEL OF THE GASTROINTESTINAL TRACT, ATTENDED BY DYSBACTERIOSIS, TANGIBLE CONTAMINATION WITH THE CANDIDA FUNGI AND A DROP OF THE VITAMINS C SUB1, B SUB1 AND B SUB2 CONTENT IN THE ORGANISM. THE SOVIET MADE DRUG COLIBACTERIN PROVED EFFECTIVE IN TREATING INTESTINAL DYSFUNCTION AND NORMALIZATION OF STOMACHAL MICROFLORA IN WORKERS OF THE ANTIBIOTICS INDUSTRY. FACILITY: INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII, VSES. INST. ANTIBIOTIKOV.

UNCLASSIFIED



1/3 028 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--STRUCTURE OF TSIOLKOVSKIY CRATER -U-  
AUTHOR--(04)-GORSHKOV, G.S., MELEKESTSEV, I.V., SHTEYNBERG, G.S., ERLIKH,  
E.N.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, SERIYA GEOLOGICHESKAYA, NO.  
2, 1970, PP 13-19  
DATE PUBLISHED-----70  
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, SPACE TECHNOLOGY  
TOPIC TAGS--LUNAR CRATER, SPACEBORNE PHOTOGRAPHY/(U)LUNIK 3 LUNAR PROBE,  
(U)TSIOLKOVSKIY LUNAR CRATER, (U)ARCHIMEDES LUNAR CRATER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1992/1020 STEP NO--UR/0011/70/000/002/0013/0019  
CIRC ACCESSION NO--AP0112171  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112171

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE GIVES INFORMATION ON TSIOLKOVSKIY CRATER, SITUATED ON THE FAR SIDE OF THE MOON. THE STUDY WAS MADE USING PHOTOGRAPHS TAKEN IN FEBRUARY 1967 BY LUNAR ORBITER 3 (PHOTOGRAPHS FURNISHED THE AUTHORS BY THE GODDARD SPACE CENTER). THE CRATER IS ROUND, 230-250 KM IN DIAMETER, SITUATED IN AN EXTENSIVE MOUNTAINOUS REGION. THIS CRATER OR DEPRESSION IS SURROUNDED BY A RING MOUNTAIN SYSTEM 40-70 KM WIDE. A DISTINGUISHING CHARACTERISTIC OF THIS CRATER IS THE ABSENCE OF A SOLID RING WALL SUCH AS AROUND ARCHIMEDES CRATER. THE RING MOUNTAIN SYSTEM SURROUNDING THE CRATER IS SIMILAR TO THAT OF ALPHONSUS CRATER. THE DEGREE OF DESTRUCTION OF THE RING MOUNTAIN SYSTEM IS NONUNIFORM: THE SECTORS ON THE NORTH AND SOUTH ARE MOST DESTROYED. IN CONTRAST TO MOST LARGE CRATERS, THERE ARE NO CRATERLETS OF SIGNIFICANT SIZE IN THE RING MOUNTAIN SYSTEM OF TSIOLKOVSKIY. THE FLOOR OF THIS CRATER HAS A COMPLEX STRUCTURE. THE DETAILED MORPHOLOGY OF THIS FORMATION CANNOT BE EXPLAINED ON THE BASIS OF THE METEORITE HYPOTHESIS. TAKING INTO ACCOUNT THE TECTONIC NATURE OF THE RING MOUNTAIN SYSTEM SURROUNDING THE CRATER, IT CAN BE SAID THAT IT IS MUCH UNLIKE CRATERS OF THE ARCHIMEDES TYPE CHARACTERISTIC FOR "SEA" REGIONS. THE RING MOUNTAIN SYSTEM OF THE LATTER HAS AN ACCUMULATIVE NATURE AND UNDERGOES A TRANSITION INTO THE "SEA" DEPOSITS SURROUNDING THE CRATER. CRATERS OF THE TSIOLKOVSKIY TYPE ARE CUSTOMARY FOR THE "MOUNTAIN" REGIONS. THE DEPOSITS OF THE DIRECTED EXPLOSION, ASSOCIATED WITH THE DEPRESSION, INDICATE A MAJOR ROLE OF THE GAS PHASE SEPARATED AT THE TIME OF THE EXPLOSION FROM THE SILICATE COMPONENT OF MAGMA.

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PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0112171

ABSTRACT/EXTRACT--UNDER TERRESTRIAL CONDITIONS SUCH DEPOSITS ARE USUALLY ASSOCIATED WITH ACIDIC PYROCLASTIC PRODUCTS (PUMICES, IGNIMBRITES). IT CAN BE ASSUMED BY ANALOGY THAT THE DEPOSITS ASSOCIATED WITH THE EXPLOSIVE PHASE OF ACTIVITY OF TSIOLKOVSIIY CRATER AND OTHER CRATERS OF A SIMILAR TYPE HAVE A SIMILAR COMPOSITION. FACILITY: INSTITUTE OF VOLCANOLOGY SIBERIAN DEPARTMENT ACADEMY OF SCIENCES USSR.

UNCLASSIFIED

1/2 048

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EXPERIENCE IN AERIAL INVESTIGATION OF VOLCANIC SURFACES ON  
KAMCHATKA -U-  
AUTHOR-(04)-LIPSKIY, YU.N., SHTEYNBERG, G.S., POSPERGELIS, M.M., NOVIKOV,  
V.V.  
COUNTRY OF INFO--USSR

SOURCE--STATE ASTRONOMICAL INSTITUTE; MOSCOW, ASTRONOMICHESKIY ZHURNAL,  
VOL 47, NO 2, 1970, PP 411-419  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--VOLCANO, SPECTROGRAPH, LIGHT POLARIZATION, IR SPECTROMETER,  
LIGHT REFLECTION, AERIAL RECONNAISSANCE/(U)ASP 15 SPECTROGRAPH, (U)AN2  
AIRCRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3001/0960

STEP NO--UR/0033/70/047/002/0411/0419

CIRC ACCESSION NO--AP0126608

UNCLASSIFIED

2/2 048

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0126608

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS PAPER GIVES THE RESULTS OF AN AERIAL INVESTIGATION OF VOLCANIC SURFACES ON KAMCHATKA BY POLARIZATION AND SPECTRAL METHODS. THE SURVEY WAS MADE AT ALTITUDES UP TO 1 KM WITH STANDARD SOLAR ILLUMINATION ABOARD AN AN-2 AIRCRAFT. AN ASP-15 SPECTROGRAPH WAS USED IN OBTAINING THREE SPECTRAL CHARACTERISTICS: TOTAL RADIATION INTENSITY, DEGREE OF POLARIZATION AND ORIENTATION OF THE POLARIZATION PLANE: THE SPECTRAL RANGE 410-67M MU WAS COVERED. THE USE OF AN INFRARED SPECTROMETER ASSEMBLED ON THE BASIS OF A ZMR-2 INSTRUMENT MADE IT POSSIBLE TO STUDY THE BRIGHTNESS DISTRIBUTION OF SOLAR LIGHT IN THE SPECTRUM WHICH WAS REFLECTED FROM VOLCANIC SURFACES IN THE SPECTRAL RANGE FROM 0.3 TO 2.5 MU. A CLOSE SIMILARITY WAS FOUND BY A COMPARISON OF THE POLARIZATION AND SPECTRAL CHARACTERISTICS OF THE STUDIED SURFACES AND LUNAR SURFACES (FOR THE SEAS) IN THE CASE OF A SLAG FIELD. FRESH BASALTIC LAVA FLOWS CAN BE ANALOGUES OF THE SURFACE COVER OF THE BOTTOM OF TYCHO CRATER. IT WAS NOTED THAT THE PRESENCE OF LARGE ROCK FRAGMENTS ON THE INVESTIGATED SURFACE LEADS TO A NEUTRAL DEPENDENCE OF THE DEGREE OF POLARIZATION ON WAVELENGTH. THE POLARIZATION AND SPECTRAL CHARACTERISTICS OBTAINED FOR WATER, HARDWOOD AND SOFTWOOD FORESTS ARE COMPARED.

UNCLASSIFIED

Coatings

USSR

UDC 621.744.079

STUPACHENKO, Yu. T., SHTEYNBERG, L. A., GENDLER, A. Kh.,  
and DMITRIYEV, B. P.

"Separating Protective Coating for Model Equipment"

Moscow, Mashinostroitel', No 11, Nov 73, p 23

Abstract: The PELT-1 composition (Author's Certificate No 257702) has been developed in the capacity of a separating protective coating for the foundry equipment at Zaporozh'ye Technological Design and Planning Institute. The composition consists of polyvinyl chloride chlorinated resin PSKh-N, epoxy resin ED-6, polyethylene-polyamine, R-4 solvent, and titanium dioxide. The preparation of the composition, its principal component - the fillers, the introduction of the hardening agent (10 weight parts polyethylene-polyamine) and of the filler (100 weight parts titanium dioxide), and the application method of the coating are described. The PELT-1 composition is recommended as protective coating of the wooden model equipment, of parts of agricultural machines for preparing and distribution of fertilizer, and of the metallurgical equipment for preparing exothermal mixtures.

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USSR

Thermomechanical Treatment

UDC: 621.789-977:669.14.018.254

SMIRNOV, M. A., SHTEYNBERG, M. M., GUREVICH, L. G., FILATOV, V. I., SHILKOVA, T. S., Chelyabinsk Polytechnic Institute

"Hardening of Stamp Steels During High Temperature Thermomechanical Treatment"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 29-31.

Abstract: The use of high temperature heat treatment and mechanical working can increase the mechanical properties of many tool steels. This article studies the influence of this treatment on stamp steels for hot deformation. Steels studied included types 5KhNV, 4Kh5MFS, 4Kh4M2VFS (D122) and 3Kh2V8F, the latter three of which show a tendency toward dispersion hardening. Billets 19 x 19 mm, after austenitizing, were rolled in two passes at different temperatures with reductions of 37%, then quenched in oil. The heating temperature for the high temperature heat treatment and mechanical working was 850° C for type 5KhNV, 1040° C for type 4Kh5MFS, 1070° C for type 4Kh4M2VFS and 1100° C for type 3Kh2V8F. All steels were then tempered at 450-650° C. The tensile strength, impact toughness and thermal stability were determined. It was found that high temperature plastic deformation accelerates the

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Smirnov, M. A., Shteynberg, M. M., Gurevich, L. G., Filatov, V. I., Shilkova, T. S., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 29-31.

breakdown of austenite in all the steels tested, manifested as a decrease in the incubation period and an increase in the breakdown rate. However, the incubation period of the intermediate conversion is increased, the rate and completeness of conversion decrease. Thus, the hardenability of the steels is increased overall. Only the steels with tendencies to dispersion hardening show high stability of thermomechanical hardening during tempering. A significant increase in strength properties of these steels at room temperature and elevated temperatures is observed after deformation below the  $Ac_3$  point. High temperature heat treatment and mechanical working decrease the brittle-rupture tendency of 4Kh5MFS and 4Kh4M2VFS steels only after deformation at 1000° C.

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USSR

UDC 669.15.24.782:669.112.227.34

SHTeyNBERG, M. M., GOYKHENBERG, Yu. N., MIRZAYEV, D. A., and MOROZOV, O. P.,  
Chelyabinsk Polytechnical Institute

"Martensite Transformation in the Plastic Deformation of Fe-Ni-Si Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1200-1205

Abstract: Fe-Ni-Si alloys were melted in a 50-kg induction furnace, poured into 12.5-kg ingots, and forged into billets measuring 15 x 15 mm. The bars were homogenized for 10 hours at 100° C and then rolled into plates 1.5-2 mm thick from which samples measuring 60 x 5 x 1 mm were prepared. Chemical composition of alloy N28S was (in wt %): 28.1 Ni, 1.5 Si, 0.04 Mn, 0.07 Cr, 0.022 S, 0.012 P, balance Fe; composition of alloy N29S2 was: 29.3 Ni, 2.02 Si, 0.07 C, 0.13 Mn, 0.09 Cr, 0.02 S, 0.016 P, balance Fe. The martensite transformation temperature ( $M_s$ ) was +10 for N28S and -60 for N29S2. From a study of the martensite formation by plastic deformation it was established that martensite needles of the finest martensite plates are formed during cooling and do so in and along the grain boundaries. The needles, formed by plastic deformation, are most often situated parallel and intersect

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SHTEYNBERG, M. M., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 6,  
Dec 70, pp 1200-1205

slip lines at small angles. The angle of disorientation in an austenite grain achieves a significantly large magnitude when plastic deformation is accompanied by the formation of martensite. This disorientation is much greater than when deformation is done above the  $M_d$  temperature.

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1/2 039  
TITLE--MECHANICAL PROPERTIES OF STRUCTURAL STEELS AFTER NORMAL HARDENING  
AND AUSTEMPERING -U-  
AUTHOR--USHAKOV, V.G., GONCHAR, V.N., SHILKOVA, T.S., SHTEYNBERG, M.M.  
FILATOV, V.I.  
COUNTRY OF INFO--USSR  
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2) 2-5  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MECHANICAL PROPERTY, ISOTHERMAL TRANSFORMATION, METAL  
HARDENING, ALLOY DESIGNATION, LOW ALLOY STEEL, STRUCTURAL STEEL, CRACK  
PROPAGATION, METAL HEAT TREATMENT, AUSTENITE, BRITTLE  
FRACTURE/(U)30KHGSN2A LOW ALLOY STEEL, (U)30KHGSNMA LOW ALLOY STEEL,  
(U)30KHGSN2MA LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1988/1307

STEP NO--UR/0129/70/000/002/0002/0005

CIRC ACCESSION NO--AP0106084

UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106084

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE KINETICS OF ISOTHERMAL DECOMP. OF SUPERCOOLED AUSTENITE WAS STUDIED TO ESTABLISH THE OPTIMAL AREA OF ISOTHERMAL HARDENING FOR STEELS 30KHGSN2A, 30KHGSNMA, AND 30KHGSN2MA. THE MECH. PROPERTIES OF THE STEELS, PREPD. UNDER INDUSTRIAL CONDITIONS, WERE STUDIED WITH DEPENDENCE ON TEMP. AND THE TIME HELD IN THE HOT MEDIUM AS WELL AS THE TEMP. OF THE SUBSEQUENT ANNEAL. THE MECH. PROPERTIES FOLLOWING ISOTHERMAL HARDENING WERE COMPARED WITH THE PROPERTIES FOLLOWING NORMAL HARDENING AND ANNEAL. UNDER SIMILAR CONDITIONS, STRENGTH PROPERTIES OF THE 3 STEELS, ISOTHERMALLY HARDENED, SHOW LESS TENDENCY TO BRITTLE FRACTURE THAN FOLLOWING NORMAL HARDENING AND ANNEAL, SINCE IN THE LATTER INSTANCE, ANNEAL COINCIDES WITH DEVELOPMENT OF BRITTLNESS. ISOTHERMAL HARDENING OF THE STUDIED STEELS INCREASES THE FUNCTION OF CRACK PROPAGATION AS COMPARED WITH NORMAL TEMPER AND ANNEAL AT SIMILAR STRENGTHS.

UNCLASSIFIED

Thermomechanical Treatment

USSR

UDC 669.15.018.8:621.785.74

SHTEYNBERG, M. M., SMIRNOV, M. A., TOLSTOV, A. M., and BULANOV, YU. P.

"Effect of the Type of Thermomechanical Treatment on the Structure, Phase Composition and Strengthening of Kh18Ni10T Steel"

V sb. Povysh. konstruktivn. prochnosti staley i splavov (Increasing the Structural Strength of Steels and Alloys -- Collection of Works), No 2, Moscow, 1970, pp 202-207 (from RZh-Metallurgiya, No 3 Mar 71, Abstract No 3I599 by N. Kalinkina)

Translation: The effect of low-temperature thermomechanical treatment (LTMT), high-temperature thermomechanical treatment (HTMT), and thermomechanical treatment (TMT) on the structure and mechanical properties of Kh18Ni10T steel was studied. HTMT was performed at 1000°, LTMT at room temperature and 600°, and TMT at room temperature and 600° with subsequent heating at 600° for 100 hrs. In all cases deformation was effected by 12-15 and 25-28% rolling. X-ray diffraction analysis and electron microscope study by transillumination showed that with increased degree of deformation the dislocation density (DD) increases at all deformation temperatures. There is a slight decline in DD with a change from room temperature to 600°; there is a significant reduction in DD after deformation at 1000°. Cold and thermal deformation gives

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SHTEYNBERG, M. M., et al., Povysh. konstruktivn. prochnosti staley i splavov, No 2, Moscow, 1970, pp 202-207

rise to a cellular dislocation structure, which is more pronounced the higher the deformation degree. Deformation at  $600^{\circ}$  causes precipitation of finely dispersed TiC particles along the dislocations. Annealing of deformed specimens at  $600^{\circ}$  causes additional precipitation of the carbides TiC and  $Cr_{23}C_6$ , mainly on the dislocations. Cold 25-28% deformation increases  $\sigma_{0.2}$  from 21 to 77 kg/mm<sup>2</sup>,  $\sigma_B$  from 59 to 81.7 kg/mm<sup>2</sup>. The same deformation at  $600^{\circ}$  increases  $\sigma_{0.2}$  to 64 kg/mm<sup>2</sup> and  $\sigma_B$  to 75.5 kg/mm<sup>2</sup>. Heating at  $600^{\circ}$  in TMT leads to a slight increase in steel strength. TMT increases the time to rupture at  $550^{\circ}$  and a stress of 18 kg/mm<sup>2</sup> sixfold as compared with hardening. This difference disappears at stresses of 14 kg/mm<sup>2</sup> or below. Two illustrations. One table. Bibliography with two titles.

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USSR

UDC 620.181:669.1

~~SHUTYKOV~~ M. M., MIRZAYEV, D. A., and ZHURAVLEV, L. G., Chelyabinsk Poly-technic Institute

"Features of Martensite Transformation in Iron and Its Alloys"

Moscow, Metallovedeniye, No 9, Sep 72, pp 21-29

Abstract: This article is primarily a discussion of martensite transformation processes based on other literature sources. Particular attention is given to a comparison of steels Kh18N10T and 000Kh18N12. The greatest strengthening effect was observed for these two steels when they were deformed 25-30% at -100°C and then aged for one hour at 400-450°C. The steels then had the following mechanical properties:

	Kh18N10T	000Kh18N12
Yield strength, kgf/mm <sup>2</sup>	199	139
Tensile strength, kgf/mm <sup>2</sup>	200	140
Elongation, %	6	12
Reduction in area, %	38	69
Impact strength, kgf-m/cm <sup>2</sup>	1	5

After deforming 25-40% at -40 to -100°C, aging at 400-450°C, and brief heating somewhat above the A<sub>c</sub> temperature, they had the following properties:

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SHTEYNBERG, M. M., et al., Metallovedeniye, No 9, Sep 72, pp 21-29

	000Kh18N12	Kh18N10T
Yield strength, kgf/mm <sup>2</sup>	70-87	62-75
Tensile strength, kgf/mm <sup>2</sup>	80-98	82-95
Elongation, %	25-30	25-30
Reduction in area, %	70-75	65-70
Impact strength, kgf/m/cm <sup>2</sup>	11-12	7

5 figures, 4 tables, 12 bibliographic references.

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1/2 036 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--RESULTS OF STUDYING TSN, 15 CYCLONES OPERATING IN A LOOP -U-  
AUTHOR--(02)-IDELCHIK, I.YE., SHTEYNBERG, M.YE.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(2), 154-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--GAS FLOW, HYDRAULIC RESISTANCE, PRESSURE GRADIENT, PIPE FLOW,  
DIFFUSER FLOW, CYCLONE SEPARATOR  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/1496 STEP NO--UR/0064/70/046/002/0154/0155  
CIRC ACCESSION NO--AP0118483  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 036  
CIRC ACCESSION NO--AP0118483  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. FITTING OF A RING DIFFUSOR BEHIND  
A CYCLONE MOUNTED IN A LOOP CAUSES A MARKED DECREASE (BY SIMILAR TO  
20PERCENT) OF THE RESISTANCE (TO GAS FLOW) OF THE SYSTEM; AN ELBOW IN  
THE PIPING NEAR THE DIFFUSOR DOES NOT NECESSARILY INCREASE THE  
RESISTANCE, AND UNDER CERTAIN CONDITIONS MAY EVEN CAUSE A SLIGHT  
DECREASE IN RESISTANCE.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--IMMUNOLOGICAL REACTION IN CHILDREN WITH GENERAL REACTIONS OF  
DIFFERENT INTENSITY IN RESPONSE TO THE IMMUNIZATION WITH TYPHOID  
AUTHOR--(02)-KHEYPETS, L.B., SHTEYNBERG, O.YA.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,  
PP 22-26  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEDIATRICS, TYPHOID FEVER VACCINE, IMMUNIZATION, AGGLUTININ

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3001/0355

STEP NO--UR/0016/70/000/006/0022/0028

CIRC ACCESSION NO--AP0126111

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126111

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. A COMPARISON WAS MADE BETWEEN THE INTENSITY OF IMMUNIZATION REACTIONS IN RESPONSE TO TYPHOID VACCINES AND IMMUNOLOGICAL RESPONSE OF THE VACCINATED PERSON IN 315 CHILDREN, AGED FROM 7 TO 13 YEARS; CORRELATION ANALYSIS WAS APPLIED TO THESE STUDIES. THE RELATIONSHIP OF THE HEIGHT OF THE TITRES TO THE INTENSITY OF THE CLINICAL REACTION IN RESPONSE TO THE VACCINATION WAS THE MOST PRONOUNCED IN H AGGLUTININS OF 19S AND 7S CLASSES (R EQUALS 0.66, M SUBR EQUALS 0.03); THE LEAST ASSOCIATION PROVED TO EXIST BETWEEN THE INTENSITY OF VACCINAL REACTIONS AND THE VI ANTIBODY TITRES (R EQUALS 0.23, M SUBR EQUALS 0.05). CORRELATION BETWEEN THE HEIGHT OF THE ANTIBODY TITRES AND THE INTENSITY OF VACCINAL REACTIONS WAS THE MOST DISTINCT IN THE VACCINATED PERSONS WITH MILD AND MODERATELY PRONOUNCED REACTIONS. FACILITY: MUSKOVSKIY INSTITUT VAKTSIN I SYVOROTOK IM. MECHNIKOVA.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--BROWNIAN MOTION NEAR THE CRITICAL POINT OF LIQUIDS -U-  
AUTHOR-(03)-GITMAN, M.S., LIKHT, M.K., SHTEYNBERG, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(3), 405-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--BROWNIAN MOTION, CRITICAL POINT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/1128 STEP NO--UR/0185/70/015/003/0405/0409  
CIRC ACCESSION NO--AP0136548

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136548

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE EXPTL. DATA IN THE VICINITY OF THE CRIT. REGION AGREE BETTWE WITH THE DEPENDENCE OF THE BROWNIAN DIFFUSION COEFF. ON THE VISCOSITY OF THE MEDIUM GIVEN BY  $\eta$  SIMILAR TO  $\eta$  PRIME0 OR  $\eta$  SIMILAR TO  $\eta$  PRIME2 RATHER THAN THE EINSTEIN RELATION  $\eta$  SIMILAR TO  $1-\eta$ . FACILITY: INST. FIZ.-TEKH. RADIOTEKH. IZMER., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 532.59:532.529.2

GITERMAN, M. SH., SHTeyNBERG, V. A., Moscow

"Internal Gravitational Waves and the Convective Instability of a Fluid"

Moscow, Mekhanika zhidkosti i gaza, No. 2, Mar/Apr 72, pp 55-61

Abstract: The interrelationship between conditions for convective instability and the condition for the existence of internal gravitational waves in a fluid is investigated. There is assumed a density gradient with respect to height both due to the gravitational field and due to the temperature and concentration gradient, particularly close to the critical points of pure fluids and binary mixtures. The error in measuring the coefficient of heat conductivity close to the critical point associated with the propagation of internal gravitational waves is evaluated. It is noted that internal gravitational waves and convective instability of a fluid are natural phenomena due to the presence of a considerable inhomogeneity in density over height of a layer of fluid. Internal gravitational waves propagate in a mechanically equilibrium fluid if the restoration force is different from zero, but different dissipative mechanisms lead to damping of oscillations and shift the boundary for the existence of

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USSR

GITERMAN, M. SH., SHTEYNBERG, V. A., Mekhanika zhidkosti i gaza, No. 2,  
Mar/Apr 72, pp 55-61

internal gravitational waves toward positive temperature gradients while in the case of convective instability the convection threshold is shifted toward negative gradients. Examples are given to show the mutual location of the boundary for the existence of internal gravitational waves and the boundary for convective instability, both steady-state and oscillatory. It is shown that phenomena associated with inhomogeneity of the system, oscillatory and steady-state convection, and internal gravitational waves are generally characterized by different conditions of onset.

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USSR

UDC: 534.142

TARAKANOVSKIY, A. A., SHTEYNBERG, V. B., Leningrad Polytechnical Institute  
imeni M. I. Kalinin

"Excitation of Acoustic Oscillations in a Tube With Double Rieke Grid"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 2, Apr-Jun 72, pp 299-304

Abstract: Research on excitation of vibrations in a Rieke tube has shown that when the heated grid is located under a second fine grid which does not contain a source of heat, and when gas flow is directed upward, excitation of the fundamental tone causes two regions of excitation to appear in the lower half of the tube at separate Strouhal numbers, with an additional region of excitation at an intermediate Strouhal number in the upper half of the tube. The authors present experimental data which show that such regions of excitation arise periodically as the auxiliary grid is moved away from the main grid. A theory is presented which gives a qualitative description of the observed effect, which is attributed to entropy waves following the main grid and influencing heat exchange with the auxiliary grid.

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1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--APPARATUS FOR STUDYING THE COMBUSTION OF FREELY FALLING DROPS -U-  
AUTHOR--(02)-KHAVATOV, YU.A., SHTEYNBERG, V.8.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 901-3  
DATE PUBLISHED-----70  
SUBJECT AREAS--PROPULSION AND FUELS, METHODS AND EQUIPMENT  
TOPIC TAGS--TEST METHOD, COMBUSTION RATE, LIQUID FUEL, MATHEMATIC MODEL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/2213 STEP NO--UR/0080/70/043/004/0901/0903  
CIRC ACCESSION NO--AP0127575  
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127575

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A DESCRIPTION IS GIVEN OF A SPECIAL FURNACE FOR STUDYING COMBUSTION PROCESSES, IN WHICH THE FUEL IS BURNED WHILE IN A FREELY FALLING CONDITION. EXPTL. DATA RELATING THE CHANGE IN PRESSURE DURING COMBUSTION AT 700DEGREES TO THE LENGTH OF TIME THE DROPS ARE IN A FREELY FALLING STATE, CONFIRMED THE MATH. RELATIONS PREVIOUSLY DERIVED FOR THE SYSTEM.

UNCLASSIFIED

USSR

UDC 539.4

SOYFER, YA. M., and SHTEYNBERG, V. G.

"Temperature Dependence of the Yield Point of Zinc at Low Temperatures and Dislocation Mobility"

Khar'kov, Fiz. Mekhanizmy Plastich. Deform. pri Nizkikh Temperaturakh -- Sbornik (Physical Mechanisms of Plastic Deformation at Low Temperature -- Collection of Works), 1971, p 11 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V1257)

Translation: An investigation is made of the temperature dependence of the yield point of zinc monocrystals in the temperature interval from 4.2 to 300°K. Samples oriented for basal or pyramidal slip were used. It was discovered that the yield point for shear along the planes of a second-order pyramid is considerably more temperature-dependent than is the yield point for slip along the basal plane. The obtained results are compared with data on the dislocation mobility of the indicated slip systems, obtained by the method of internal friction at frequencies of about 10 Hertz on the same zinc monocrystals. It is shown that in the investigated interval of stress amplitudes, at low temperatures the dislocation mobility is controlled by the process of surmounting the Peierls barrier. Evaluations of the Peierls barrier were made for a basal and for a pyramidal slip system. The relation of these values to the results of measurements of the temperature dependence of yield are discussed.

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1/5 019  
TITLE--ANOMALOUS BEHAVIOR OF SHEAR MODULUS IN DEFORMED ZINC SINGLE  
CRYSTALS -U-  
AUTHOR--SOYFER, YA.M., SHTEYNBERG, V.G. S  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TVERD. TELA 1970, 12(1) 306-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--ZINC, SINGLE CRYSTAL, SHEAR MODULUS, TORSION STRESS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1988/0640 STEP NO--UR/0181/70/012/001/0335/0307  
CIRC ACCESSION NO--AP0105619  
UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AP0105619

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE SHEAR MODULUS OF SINGLE CRYSTAL ZN WAS MEASURED WITH THE AID OF A VACUUM REVERSIBLE PENDULUM AND WAS DETD. AS THE MAGNITUDE PROPORTIONAL TO THE SQUARE OF THE FREQUENCY OF TWISTING OSCILLATIONS. DIFFERENT ORIENTATIONS OF THE CRYSTALS WERE USED AT 100-300DEGREESK AND FOR VARIOUS DEGREES OF DEFORMATION. THE TEMP. DEPENDENCE IS GIVEN OF THE SQUARE OF THE FREQUENCY OF THE TWISTING OSCILLATIONS. THE SHEAR MODULUS OF NONDEFORMED SPECIMENS IS INDEPENDENT OF TEMP. DEFORMATION BY TORSION BY 1.6PERCENT AT ROOM TEMP. DECREASES THE SHEAR MODULUS AND LEADS TO A VARIATION OF ITS TEMP. DEPENDENCE: AT 170DEGREESK THERE IS A SHARP MIN. DOUBLING THE DEFORMATION SHIFTS THE MIN. TOWARD LOWER TEMPS AND INCREASES ITS DEPTH.

UNCLASSIFIED

USSR

UDC 634.0.812.719

SHTEYNERS, K. N., GOLDSHTEYNS, A. Ya., ROTSENS, K. A., DOLATSI, Ya. A.,  
and RAYAVEYE, E. L., Institute of Wood Chemistry, Academy of Sciences  
Latvian SSR

"Deformation Characteristics of Birch Wood, Modified Chemically by Radiation,  
as a Function of Polymer Content"

Riga, Izvestiya Akademii Latviyskoy SSR, No 11(304), 1972, pp 35-41

Abstract: The basic components of the pliability tensor of polystyrene which has been modified chemically by radiation as a function of its concentration in birch wood were determined. The module of elasticity and the module of shear were also measured for three groups of samples: a control group, a group exposed to an integrated radiation dose of 14 mrads, and a group containing the chemically modified polystyrene. The components of interest were  $a_{1111}$ ,  $a_{2222}$ ,  $a_{1212}$ ,  $a_{1313}$ , and  $a_{2323}$ . The mathematical form of these is also given. The components  $a_{2222}$  and  $a_{2323}$  showed a greater dependence (a second order function) on the polystyrene concentration than the other three components, which had a first order dependence.

1/1

- 72 -

1/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--INFLUENCE OF THE SOLUBILITY OF TABLETED SUBSTANCES ON THE  
EFFECTIVENESS OF THE DISINTEGRATING ABILITY OF STARCH -U-  
AUTHOR--(04)--SHTEYNGART, M.V., OSIPOVA, I.D., NOSOVITSKAYA, S.A., BORZUNOV,  
YE.YE.

COUNTRY OF INFO--USSR

SOURCE--FARMATSIYA (MOSCOW) 1970, 19(1), 17-20

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DRUG INDUSTRY, STARCH, SOLUBILITY, AQUEOUS SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/0171

STEP NO--UR/0466/70/019/001/0017/0020

CIRC ACCESSION NO--AP0119167

UNCLASSIFIED



2/2 007

CIRC ACCESSION NO--AP0119167

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN COMPARATIVE INVESTIGATIONS IT WAS SHOWN THAT TABLETS PREPD. FROM VARIOUS DRUGS WITH STARCH SHOW DIFFERENT DISINTEGRATION RATES, WHEN IMMersed IN WATER. TABLETS WITH WATER INSOL. DRUGS DISINTEGRATE WELL AND QUICKLY. WATER SOL. DRUGS FORM MORE DURABLE TABLETS WITH STARCH, APPARENTLY BECAUSE OF THE DIMINISHING SORPTION CAPACITY OF STARCH. TABLETS OF STARCH WITH SUBSTANCES CAUSING GLUEING OF STARCH (IODIDES, CHLORIDES, BROMIDES, BENZOATES), DISINTEGRATE POORLY. TO FORM TABLETS FROM WATER SOL. AND STARCH GLUEING SUBSTANCES, NO STARCH SHOULD BE USED. FACILITY: KHAR'KOV, NAUCH.-ISSLED KHIM. FARM. INST., HARKOV, USSR.

UNCLASSIFIED

1/2 015  
UNCLASSIFIED  
PROCESSING DATE--23OCT70  
TITLE--REACTION OF OCTAFLUORONAPHTHALENE WITH SULFUR TRIOXIDE -U-  
AUTHOR-(03)-AKHMETOVA, N.E., SHEYNGARTS, V.D., YAKOBSON, G.G.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 705-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, NAPHTHALENE, SULFUR OXIDE,  
COMPLEX COMPOUND, NAPHTHOL, QUINONE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1999/1779  
CIRC ACCESSION NO--AP0123576  
STEP NO--UR/0062/70/000/003/0705/0707  
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. HEATING 5 G OCTAFLUORONAPHTHALENE (I) WITH 14.5 G SO SUB3 STABILIZED BY 1.45 G ME SUB2 SO SUB4 IN A SEALED TUBE 1 DAY AT 50DEGREES GAVE AFTER QUENCHING IN ICE AND EXTN. WITH CH SUB2 CL SUB2 1.4 G PURE II, 8 SUB0.02 73-4DEGREES. I AND DRY HF IN 40 HR AT 20DEGREES GAVE AFTER AN AQ. TREATMENT 73PERCENT 1,OXO,PERFLUORO,1,4,DIHYDRONAPHTHALENE, 15PERCENT HEPTAFLUORO,1,NAPHTHOL (III) AND 12PERCENT UNIDENTIFIED PRODUCTS. SIMILARLY, I AND 48PERCENT HBR IN ET SUB2 O GAVE IN 4 DAYS A SMALL AMT. HEXAFLUORO,1,4,NAPHTHOQUINONE, ALONG WITH 82PERCENT III. I AND CONCD. HCL GAVE IN 4 DAYS 80PERCENT 1,OXO,4,CHLOROHEPTAFLUORO,1,4,DIHYDRONAPHTHALENE. THE RESULTS SUGGEST THAT THE REACTION OF SO SUB3 WITH C SUB10 F SUB8 PROCEEDS THROUGH A COMPLEX OF THE POLYFLUORO SIGMA BONDED TYPE. FACILITY: NOVOSIBIRSK, INST. ORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

172 018  
TITLE--INTERACTION OF POLYFLUOROAROMATIC COMPOUNDS WITH ELECTROPHILIC  
AGENTS -U-  
AUTHOR--(02)-SHTEINGARTS, V.D., VAKOBSON, G.G.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(1), 72-80  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, NITRATION, CHEMICAL REACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1238  
CIRC ACCESSION NO--AP0116700  
STEP NO--UR/0063/70/015/001/0072/0080  
UNCLASSIFIED

2/2 018  
CIRC ACCESSION NO--AP0116700 UNCLASSIFIED PROCESSING DATE--30OCT70  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW THROUGH PART OF 1969 ON  
REPLACEMENT OF H ATOMS IN PARTLY FLUORINATED COMPS., ELECTROPHILIC  
ADDN. TO FLUORGAROM. COMPS., REACTION OF PARTLY FLUORINATED AROM.  
COMPS. WITH NITRATING AGENTS, AND GENERAL REACTIONS OF POLYFLUORUAROM.  
COMPS. WITH 43 REFS.

UNCLASSIFIED

1/2 019  
UNCLASSIFIED  
PROCESSING DATE--30OCT70  
TITLE--ACTION OF ELECTROPHILIC AGENTS ON POLYFLUORO AROMATIC COMPOUNDS.  
III. SUBSTITUTION AND ADDITION REACTIONS DURING THE ACTION OF  
AUTHOR--(04)--SHEYNIGARIS, V.D., OSINA, D.I., KOSTINA, N.G., YAKOBSON, G.G.  
COUNTRY OF INFO--USSR  
SOURCE--ZH.-ORG. KHIM. 1970, 6(4), 833-40  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, NAPHTHALENE, NITRATION, EXCHANGE  
REACTION, ORGANIC NITRO COMPOUND, NAPHTHOQUINONE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/2089  
CIRC ACCESSION NO--AP0125676  
STEP NO--UR/0366/70/006/004/0833/0840  
UNCLASSIFIED

2/2 019  
 CIRC ACCESSION NO--AP0125676 UNCLASSIFIED  
 ABSTRACT/EXTRACT--(U) GP-0- PROCESSING DATE--30OCT70  
 2H,HEPTAFLUORONAPHTHALENE (I) WITH OLEUM, HSO SUB3 CL, (CLCH SUB2) SUB2  
 O IN HSO SUB3 CL SOLN., OR C SUB6 F SUB5 CH SUB2 CL IN HSO SUB3 CL SOLN.  
 GAVE SOLELY 2, (R SUBSTITUTED) I DERIVS. (II) (R EQUALS SO SUB3 H, SO  
 SUB2 CL, CH SUB2 CL, OR CH SUB2, C SUB6 F SUB5). THE REDN. OF II (R  
 EQUALS CH SUB2 CL) WITH ZN-HCL GAVE II (R EQUALS ME). HOWEVER, THE  
 NITRATION OF I GAVE  
 4,NITRO,3,4,5,6,7,8,HEXAFLUORO,1,OXO,1,4,DIHYDRONAPHTHALENE (III). THE  
 REDN. OF III WITH ZN-HCL GAVE  
 3,4,5,6,7,8,HEXAFLUORO,1,HYDROXYNAPHTHALENE WHICH WAS CONVERTED WITH CH  
 SUB2 N SUB2 TO ITS ME ETHER. HEATING III AT 80DEGREES GAVE  
 2,5,6,7,8,PENTAFLUORO,1,4,NAPHTHOQUINONE. FACILITY:  
 NOVOSIBIRSK. INST. ORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

UDC 532.595.2

USSR

SHTEYNMAN, B. S., ALIYEV, A. A.

"Some Results of Experimental Studies of the Displacement of Deposits at the Mouth of a River (The Samur)"

Tr. Vses. konf. Molodykh uchenykh gidrometsluzhby SSSR. Okeanol. raschety i prognozy (Works of the All-Union Conference of Young Scientists of the Hydro-meteorological Service of the USSR. Oceanological Calculations and Forecasts), Leningrad, Gidrometeoizdat, 1972, pp 73-76 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6B630)

Translation: Processes for the suspension of deposits under conditions of channel and wave flows at the mouth bar of the Samura River were investigated experimentally. Tagged sands of various fractions were used. It was found that in channel flow with a plane bottom the rate of mass suspension of deposits for fractions 1.0-0.05 mm exceeds the separation rate by a factor of 1.2. If bottom ridges are present the erosion capacity of the flow considerably rises with an increase in the height of the latter. If there is purely a wave flow, the suspension of fractions greater than 0.2 mm occurs approximately under the same average velocity as in channel flow for a plane

1/2



USSR

UDC 621.375:530.145.6

SHTEYNHLEYGER, V. B., MISEZHNIKOV, G. S.

Kvantovyye usiliteli SVCh (mazery) (Microwave Quantum Amplifiers (Masers)), Moscow, Soviet Radio Press, 1971, 431 pp, ill., 1 r. 93 k. (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4D171K)

Translation: This book is a monograph devoted to paramagnetic quantum amplifiers -- microwave masers -- application of which has made it possible to achieve limiting high sensitivity of radio receivers in the microwave range. Along with the discussion of the physical principles of operation of such amplifiers, methods of calculating, design and experimental investigation of traveling wave masers and multiresonator masers and also the problems of applying masers in space radio communications systems, radio astronomy and radar are investigated. The required information about the basic components of masers is presented: paramagnetic crystals, decelerating systems, resonators, magnets with superconducting windings, low-temperature ferrites, cryostats, closed cycle coolers for helium and intermediate temperatures.

1/1

USSR

SHTEYNHLEYGER, VOL'E BENTSIONOVICH, MISEZHNIKOV, GEORGIY SOLOMONOVICH, and  
LIFANOV, PETR SERGEYEVICH

"UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]),  
Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

Abstract: The book is a monograph devoted to quantum UHF-maser paramagnetic amplifiers, the application of which makes it possible to achieve extremely high sensitivity in radio receiving devices operating in the UHF range. Along with a presentation of the physical bases of operation of such amplifiers, the methods for calculating, designing, and experimentally researching traveling wave masers and multiresonant masers, and also the problems of using masers in systems for space communications, radio astronomy, and radar are examined in detail. The necessary information concerning the main components of maser devices which include: paramagnetic crystals, delay systems, resonators, magnets with superconducting windings, low-temperature ferrites, cryostats, closed-cycle refrigerant equipment based on helium and intermediate temperatures, is presented.

The book is intended for engineers and scientific workers who are specializing in the field of development and application of low-noise UHF amplifiers,

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USSR

SHEYNISLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

low-temperature technology, and quantum electronics. The book may also be useful to instructors, aspirants, and students of advanced courses of the corresponding specialities. The book has numerous illustrations, figures, and 425 citations.

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2/5

USSR

SHTEYNSHLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

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USSR

SHTEYNHLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

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USSR

SHTEYNShLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

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USSR

UDC 621.375.029.7

NEKRASHEVICH, V.B., SHEYNSHLEYGER, V.B., SHCHERBAK, V.F., EL'KIND, S.A.

"8-mm Wave Band Maser With Microcooler Creating A 35° K Temperature"

Radiotekhnika i elektronika, Vol XVII, No 7, July 1972, pp 1544-1549

Abstract: The paper describes work conducted on a 8-mm wave band maser operating at a ruby temperature on the order of 30--40° K. It was possible to obtain such a temperature from comparatively simple small-sized closed-cycle refrigerating machines (microcoolers). The resonator unit contains signal waveguides, pump waveguides, active resonators, passive resonators, coupling for connection with the microcooler, and the ruby. The amplifier contains a KC-8 microcooler, a vacuum chamber, the resonator unit described above, a magnet, a circulator, and a pumping bridge-divider. The authors thank M.P. Stolpyanitskiy who participated in working out the design of the amplifier. 2 fig. 5 ref. Received by editors, 23 July 1971.

1/1

USSR

UDC: 621.375.826

MISEZHNIKOV, G. S., MUKHINA, M. M., and SHTEYNHLEYGER, V. B.

"Traveling-Wave Maser in the 5-Cm Range With Broad Pass Band"

Moscow, Pribory i Tekhnika Eksperimenta, No. 3, 1971, pp 138-139

Abstract: A traveling-wave maser amplifier can be given a broader pass band by increasing the linear amplification through increasing the group velocity wave delay factor. This article describes such a maser operating in the 5-cm wavelength range. The delay system is of the ctenoid type, with asymmetrical dielectric filling, and the delay factor is 300 in a pass band of 200 MHz. The active material is ruby, with the crystal optical axis at an angle of  $90^\circ$  to the constant magnetic field. The paramagnetic amplification before introduction of the magnetic field detuning at a temperature of 4.2° K is 90 db for a delay system length of 110 mm. A sketch of the delay system is given, and the frequency characteristic of the amplifier with two-stage magnetic field detuning and without introducing magnetic field detuning is plotted. The authors express their gratitude to A. I. Bykovskiy for his assistance with the tests and with tuning the amplifier.

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TITLE--ANALYSIS OF ANOMALOUS LOW FREQUENCY NOISE OF A MASER -U-

AUTHOR--(05)-GUDNOV, V.M., ZOTOV, V.V., NAGORNYKH, L.M., SORUCHENKO, R.L.,  
SHEYNISLEYGER, V.B.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, NO 3, MAR 70, PP 632-633

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MASER, TRAVELING WAVE, ELECTROMAGNETIC NOISE, NOISE ANALYZER,  
SPECTRUM ANALYZER, RADIOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1459

STEP NO--UR/0109/70/000/003/0632/0633

IRC ACCESSION NO--AP0104756

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

272 030  
IRC ACCESSION NO--AP0104756

BSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE RESULTS ARE PRESENTED OF AN EXPERIMENTAL INVESTIGATION OF THE NOISE SPECTRA OF RECEIVING DEVICES WITH A TRAVELING WAVE MASER AT THE INPUT. THE INVESTIGATION WAS CONDUCTED WITH THE AID OF A SPECTRUM ANALYZER WITH A 0.25 HZ BAND AND AN ACCURACY OF THE EQUIPMENT FREQUENCY OF 0.1 HZ IN THE 3 TO 995 HZ RANGE. THE ANALYZER WAS CONNECTED TO THE LOAD OF THE SQUARE LAW DETECTOR OF THE RECEIVING DEVICE INVESTIGATED. THE NOISE OF THE MATCHED LOAD WITH T SUBNOISE EQUALS 2900DEGREESK SERVED AS THE INPUT SIGNAL. TO ELIMINATE THE NECESSITY FOR ADJUSTING THE FREQUENCY CHARACTERISTICS OF THE RECEIVING DEVICE WITH THE MASER AND WITHOUT IT, THE SPECTRAL DENSITY OF THE NOISE WAS NORMALIZED TO UNITY AT THE HORIZONTAL PART OF THE SPECTRUM, AND IRREGULARITY OF THE SPECTRUM WAS MEASURED IN RELATIVE UNITS. MEASUREMENTS OF THE SPECTRUM WERE CONDUCTED AT THE OUTPUT OF A 5 CM BAND RADIOMETER WITH A TRAVELING WAVE MASER AT THE INPUT. IN THE MEASURING PROCESS, THE MASER OPERATED IN A SATURATION REGIME OF THE ILLUMINATION POWER. THE DEPENDENCE OF THE SPECTRAL DENSITY OF THE NOISE ON THE FREQUENCY IS SHOWN. IT IS CONCLUDED THAT BOILING HELIUM IN THE RETARDING SYSTEM OF THE TRAVELING WAVE MASER PRODUCES AN ANOMALOUS LOW FREQUENCY NOISE, THE SPECTRAL DENSITY OF WHICH INCREASES WITH A DECREASE OF THE FREQUENCY, BEGINNING WITH A FREQUENCY ON THE ORDER OF 100 HZ. IN ORDER TO REALIZE SENSITIVITY IN RADIOMETERS WITH A TRAVELING WAVE MASER WHICH HAVE ANOMOLOUS LOW FREQUENCY NOISE, IT IS NECESSARY TO SELECT A MODULATION FREQUENCY ABOVE 100 HZ. ANOMOLOUS NOISE IS ABSENT IN TRAVELING WAVE MASERS WITH A RETARDING SYSTEM NOT FILLED WITH LIQUID HELIUM.

UNCLASSIFIED

USSR

UDC 534

MITIN, V. N., ~~SHTEYNVOL'F, L. I.~~

"Synthesizing Vibration Systems with Forced Oscillations"

V sb. Konf. po kolebaniyam mekh. sistem. Tezisy dokl. (Conference on Vibrations of Mechanical Systems. Topics of Reports--collections of works), Kiev, Naukova Dumka Press, 1971, p 58 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11A151)

Translation: A study was made of the problem of synthesizing discrete dissipative systems during single-frequency periodic disturbances by the criterion of the given restriction on the peak amplitudes. The problem is solved in the most general statement where the excitation frequency can have any value on the entire numerical axis.

Two theorems are proved which permit reduction of the solution of the given problem to the problem of one-sided buildup to the right for a conservative vibration system obtained from the initial system in the absence of dissipation and external effects.

The discussed theory remains correct when the restrictions are imposed not on the amplitudes of the oscillations or deformations but on the magnitudes of the elastic forces or stresses.

1/1

USSR

UDC 613.6:615.187.5.012

2

AYZENSHTAD, V. S., DOLMATOVA-GUSEVA, E. G., PERKHUROVA, V. P.,  
SHTIFELMAN, A. V., BOGOMOLOVA, L. M., and NERUBAY, S. M., Institute of  
Hygiene, Kuybyshev

"Labor Hygiene and the State of the Workers' Health in the Malathion Industry"

Moscow, Gigiyena truda i professionalnyye zabolevaniya, No 3, Mar 71, pp 49-51

Abstract: In the reactor section of a large malathion plant, the atmosphere was found to contain xylene, hydrogen sulfide, maleic anhydride, methanol, ethanol, malathion, as well as dimethyl dithiophosphoric acid, and diethyl maleate. More than 3,500 air samples were analyzed for the above compounds and the results reported in tabular form for the various process stages. It was established that contamination of the air in the plant was due to insufficient automation, the use of manual labor in the handling of poisonous materials, imperfect control devices, and so forth. Time studies showed that laboratory workers were in contact with poisons for 59-92% of their working time. Malathion was detected in washings from the hands and in the work clothes. It was established that laundering of the work clothes in a 1% caustic soda solution is 10 times as effective as the sodium tripolyphosphate 1/2

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USSR

AYZENSHTAD, V. S., et al., Gigiyena truda i professionalnyye zabolevaniya,  
No 3, Mar 71, pp 49-51

wash used in the plant. It was recommended that plant ventilation be improved by installation of suction filtration devices at all points of high pesticide concentrations in the air. Also, the state of health of the workers was studied: 18 people had dermatitis and conjunctivitis, the number of cases of nervous system disorders increased from 10 to 38 over a 1 1/2 year period. Gastrointestinal disturbances increased from 5 to 23 cases over the same period. Rapid introduction of sanitary-hygienic measures was recommended plus repeated checks of the work conditions after their introduction.

2/2

Veterinary Medicine

USSR

UDC 576.858+578.083

NOVIKOVA, N. V., SHTIKHEL', E. I., and LIPOVICH, I. V., Institute of Biochemistry and Physiology, Academy of Sciences Kirgiz SSR

"The Effect of Dibazol on Interferon Formation by Cells of Fetal Sheep Skin After Infection of These Cells With the Virus of Contagious Ecthyma -- (Sheep Pox)"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSR, No 1, Jan/Feb 72, p 52

Abstract: It has been established in earlier work (Novikova, Veterinariya, No 10, 48-9, 1971) that the presence of dibazol increases the resistance of cells of fetal sheep skin to the virus of contagious ecthyma (sheep pox). A culture of fetal sheep skin was infected with the virus of contagious ecthyma in the presence and absence of dibazol. After the virus had been destroyed by the action of HCl for four days at 4°C, followed by addition of NaOH to pH 7.2-7.4, the interferon was titrated in a culture of fetal sheep kidney cells infected with the virus of contagious ecthyma. The culture medium from the skin cells infected in the absence of dibazol inhibited the cytopathic effect of the virus in a dilution of 1:2, while the medium from the skin cells infected in the presence of dibazol had this effect in a dilution of 1:8. This indicated that dibazol stimulated interferon formation by skin

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USSR

NOVIKOVA, N. V., et al., Izvestiya Akademii Nauk Kirgizskoy SSR, No 1,  
Jan/Feb 72, p 52

cells upon infection of the cells with the virus, because media from non-  
infected control cultures that contained or did not contain dibazol did not  
inhibit the cytopathic effect of the virus under similar conditions.

2/2

- 92 -

Acc. Nr:

AP0051939

Ref. Code: UA 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i  
Meditsiny, 1970, Vol 69, Nr 2, pp 106-109

THE EFFECT OF BENACTYZINE AND GANGLERON ON THE EMBRYOGENESIS  
IN CHICKEN

V. I. Shitlbans

S. M. Kirov Military Medical Academy, Leningrad.

The effect of diverse doses of benactyzine and gangleron on the development of 8-day old chicken embryos was studied. In doses of 0.01—1 mg/egg as against those of 10 and 20 mg/egg benactyzine caused greater destruction of embryos at the 2—10th post-administration day. The destroyed embryos often demonstrated an early form of micromelia embryodystrophy and other diverse malformations. In doses 10 and 20 mg/egg gangleron caused destruction in a large percentage of the embryos during 24 hours following introduction of the drug. The survivors had very frequently and invariably one and the same type of malformation, which necessitates a detailed teratological analysis of this drug.

REEL/FRA  
19820422

2 pc



USSR

UDC 543.42

BRESLER, P. I., Candidate of Sciences, SEMENOVA, M. V., SHTILERMAN, G. A.

"Single-Beam Ultraviolet Gas and Liquid Analyzer"

Optiko-mekhanicheskaya Promyshlennost', No 10, 1971, pp 32-34.

ABSTRACT: A single-beam ultraviolet gas and liquid analyzer with luminescent convertor, placed in a flux of radiant energy alternately before and after the sample container is described. The results of testing of a model of the analyzer are presented. The new design significantly improves technical characteristics of the device while reducing the requirements for temperature constancy of the optical system. During a four-day test, deviation of the readings of the analyzer did not exceed  $\pm 1.5\%$ , and indications were found to be essentially independent of surrounding temperature between 4 and 50°C.

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1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--DETERMINATION OF ARTICULATE MOMENTS DURING LOCOMOTION -U-  
AUTHOR--(03)-GURFINKEL, V.S., FOMIN, S.V., SHTILKIND, T.I.  
COUNTRY OF INFO--USSR  
SOURCE--BIOFIZIKA 15(2): 380-383. ILLUS. 1970  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--LAGRANGE EQUATION, ANALOG DIGITAL CONVERSION, MOTION  
MECHANICS, MAN, ANATOMY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605006/F08 STEP NO--UR/0217/70/015/002/0380/0383  
CIRC ACCESSION NO--AP0139932  
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139932

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR DETERMINING THE  
MOMENTS IN JOINTS IN WALKING IN HUMANS AND ANIMALS BASED ON LAGRANGE  
EQUATIONS IS CONSIDERED. THE ORGANIZATION OF AUTOMATIC CALCULATIONS OF  
THIS MOMENTS BY THE COMPUTER AND WITH THE ELECTRIC RECORDING OF  
GONIOGRAMS AND ANALOGUE DIGITAL CONVERTING OF THE DATA ARE DISCUSSED.  
FACILITY: MOSCOW PHYS. TECH. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

SHTIL'MAN, M. S.

UDC 51

"An Approach to the Problem of Optimizing a Loading Platform Operation"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Work of Moscow Institute of Railroad Transportation Engineers), 1972, vyp. 413, pp 89-96 (from RZh-Matematika, No 3, Mar 73, Abstract No 3V616 from author's abstract)

Translation: The article considers the operation of a one-way freight-classification platform. The optimization problem is formulated as a problem in mixed integral programming with a great number of integral variables. By means of the "penalty function" method the problem of finding the conditional minimum of the cost functional reduces to the problem of finding the unconditional minimum of another functional. There is a discussion of particular cases in which use of linear programming is effective.

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USSR

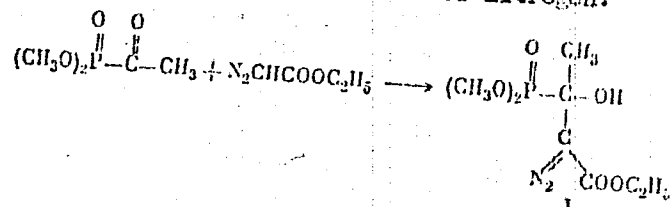
UDC: 547.26'118

PUDOVIK, A. N., REMIZOV, A. B., STABROVSKAYA, L. A., ~~SHITIL'MAN~~ S. Ye.,  
LUSHCHITS, I. G., GAREYEV, R. D., Kazan' State University imeni V. I.  
Ul'yanov-Lenin

"Adduct of the 'Aldol' Type of Ethyl Diazoacetate With Dimethyl Acetophos-  
phonate"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jan 72, p 1421

Abstract: The authors investigated the reaction of dimethyl acetophosphonate  
with ethyl diazoacetate at room temperature. It was found that an "aldol"  
addition product is formed without elimination of nitrogen.



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USSR

UDC 547.241

PUDOVIK, A. N., GAREYEV, R. D., and SHTIL'MAN, S. Ye., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Enolization of the Ethyl Ester of  $\alpha$ -Dimethoxyphosphinylacetoacetic Acid"  
Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1646-1647

Abstract: The adduct of the "aldol" type reaction of ethyl diazoacetate with dimethoxyacetophosphonate breaks down in refluxing dioxane, yielding nitrogen and the ethyl ester of  $\alpha$ -dimethoxyphosphinylacetoacetic acid. In this compound the ratio of the tautomeric forms was the following: cis-enol form: trans enol form: ketone form = 69.1:21.4:9.5.

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USSR

UDC 547.26'118

PUDOVIK, A. N., GAREYEV, R. D., REMIZOV, A. B., AGANOV, A. V., YEVSTAF'YEV, G. I., and SHTIL'MAN, S. Ye., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Aldol" Type Addition Products of Diazoacetic Acid Esters With  $\alpha$ -Ketophosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 559-567

Abstract: A mixture of diethoxyacetophosphonate and ethyldiazoacetate was kept two weeks in the dark at room temperature, poured into water, and decanted, the "aldol" type product -- diethoxy- $\alpha$ -hydroxy- $\alpha$ -carboethoxy-diazomethylethylphosphonate -- being isolated from the oily residue. A detailed structural analysis of the product has been carried out using PMR, IR and UV spectroscopical data.

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USSR

UDC 599.(571.61)

SHTIL'MARK, F. R.

"Some Characteristics of the Distribution and Ecology of Small Mammals in the Forests of the Lower Amur Region"

Moscow, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Biologicheskii, No 2, 1971, pp 76-85

Abstract: Nine species of Insectivora (*Neomys fodiens*, *Sorex caecutiens*, *S. unguiculatus*, *S. centralis*, *S. gracillimus*, *S. minutus gracillimus*, *S. vir*, *S. daphaenodon*, *S. minutissimus*), 4 species of Lagomorpha and Rodentia (*Ochotona hyperborea*, *Pteromys volans*, *Eutamias sibiricus*, *Rattus norvegicus*) and 6 species of murine rodents (*Clethrionomys rufocanus*, *C. rutilus*, *Microtus fortis*, *Lemmus amurensis*, *Apodemus speciosus*, *Micromys minutus*) were found on field trips from 1964 to 1967 in the main forests of the Lower Amur region. The distribution of these animals is determined mainly by vertical zones, types of vegetation and changes in vegetation as a result of fires and cutting. The numbers of various species are highly variable because the

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SHTIL'MARK, F. R., Byulleten' Moskovskogo Obshchestva Ispytateley  
Prirody, Otdel Biologicheskiiy, No 2, 1971, pp 76-85

rates of reproduction are rapidly affected both by changes in  
external conditions (climate, abundance of tree seeds) and  
relationships within populations and species.

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Adsorption

USSR

UDC 541.6

SHTIN, A. P., SHRYGIN, L. M., and GONCHAR, V. F.

"Change in the Structure and Adsorption Properties of Titanium Dioxide During Hydrothermal Treatment"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 2, Feb 73, p 485

Abstract: Treatment of  $TiO_2$  samples in an autoclave at 50-350°C for 3 hrs leads to changes in phase composition and in the size of the primary particles. Up to 50°C the primary particles undergo diminution in size, resulting in increased specific surface area. As the temperature increases, roentgeno-amorphous  $TiO_2$  converts to anatase and suddenly an increase in particle size begins to take place, lowering the specific surface area. The dimensions of the pores are changed during these processes, the specific volume remaining unaltered. The sorption capacity curves for  $Cu^{2+}$  and  $Ca^{2+}$  expressed as functions of the temperature, mimic closely the curves of specific surface changes discussed above.

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USSR

Corrosion

UDC: 621.771.23.011

KARDONOV, B. A., SHTIRTS, V. V., BYKOVSKIY, G. S., KOROBV, A. G.

"Rolling of Sheets of Highly Corrosion-Resistant Alloy"

Moscow, Metallurg, No 12, Dec 73, pp 25-27.

Abstract: EP-567 alloy has been recommended for chemical equipment which must be used in corrosive media such as acetic acid. The alloy, containing not over 0.03% C, not over 0.015% Si, not over 1.0% Mn, 14.5-16.5% Cr, 15-17% Mo, 3-4.5% W, not over 1.5% Fe, remainder Ni, has satisfactory ductility in the 950-1220° C temperature range. This alloy has high tensile strength and deformation resistance, resulting from the high content of molybdenum and tungsten. Considering the peculiarities of the alloy, the Central Scientific Research Institute for Ferrous Metallurgy and the Ashinskiy Metallurgical Plant have developed and introduced a technology for production of sheets on a reversing quarto 1500 mill. This article studies the strength and ductility characteristics of the alloy in the 900-1250° C temperature interval. The technology developed can produce hot-rolled strips measuring 1000 by 2000 mm (4-10 mm thick). Sheets 1.5 to 2 mm thick with the same dimensions are produced on a quarto 1400 mill by cold rolling. The rolling forces do not exceed

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Kardonov, B. A., Shtirts, V. V., Bykovskiy, G. S., Korobov, A. G., Moscow, Metallurg, No. 12, Dec 73, pp 25-27.

the permissible forces for these mills. The corrosion resistance and mechanical properties of the finished sheets satisfy the requirements of consumers. The technological instruction calls for multipass rolling (60-55) → 10 → 6 → 4 mm; metal heated to 1180-1200° C; heating time of metal calculated at 2 min/mm thickness before rolling; temperature at mill exit at least 950° C; compression per pass not over 5 mm.

USSR

UDC 53.07/.08+53.001.5

SHTIVEL'MAN, A. YA.

"Examples of Recent Accelerator Shielding Structures"

V sb. Nauchno-issled. tsentry, in-ty, labor. (Scientific-Research Centers, Institutes, Laboratories -- Collection of Works), All-Union State Institute for the Planning of Scientific Research Institutes and Laboratories of the Academy of Sciences USSR, No. 1, Moscow, 1970, pp 112-118 (from RZh-Fizika, No 1, Jan 71, Abstract No 1A490)

Translation: Various shielding structures for low-energy accelerators (up to 100 Mev) are discussed. Since the cost of shielding is 30-50% of the cost of all construction and assembly work, a rational selection of the construction and shielding materials is very important. V. P.

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1/2 029

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--TWO LAYER ROOFING MATERIAL -U-

AUTHOR--(05)-DANTSIN, M.I., ARONOV, KH.I., CHERNIN, G.B., BLYAKHER, M.A.,  
SHIOFENMAKHER, B.M.  
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,880  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR, BIOLOGICAL  
AND MEDICAL SCIENCES  
TOPIC TAGS--POLYVINYL CHLORIDE, CONSTRUCTION MATERIAL, INSULATING  
MATERIAL, MICROBIAL DEGRADATION, AMMONIUM COMPOUND, FLUORIDE, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0987

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0119856

UNCLASSIFIED

029

CIRC ACCESSION NO--AA0119856  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE TITLE ROOFING MATERIAL  
CONSISTS OF LINOLEUM WITH A POLY(VINYL CHLORIDE) FACING LAYER ON A HEAT  
AND SOUND INSULATING BASE. TO INCREASE THE DURABILITY, THE HEAT AND  
SOUND INSULATING PROPERTIES, AND THE DECAY RESISTANCE OF THE LINOLEUM, A  
COMPN. WAS PREPD. CONSISTING OF 60-70PERCENT REPROCESSED WOOL FIBERS,  
30-40PERCENT SYNTHETIC FIBERS, AND 2PERCENT (NH SUB4) SUB2 SIF SUB6  
BASED ON THE FIBER WT. FACILITY: ALL UNION SCIENTIFIC RESEARCH  
INSTITUTE OF NEW CONSTRUCTION MATERIALS.

UNCLASSIFIED

1/2 006  
UNCLASSIFIED  
TITLE--PRODUCTION OF HIGH YIELD SEMICHEMICAL PULPS FOR CORRUGATED PRODUCTS  
-U-  
AUTHOR--(05)-SHAPIRO, A.R., SHTOENMAKHER, N.A., ONOKHIN, I.P., PUZYREV,  
S.A., TSAL, TS.K.  
COUNTRY OF INFO--USSR  
SOURCE--ZELLST. PAPIER (LEIPZIG) 1970, 19(4), 107-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, BEHAVIORAL AND SOCIAL SCIENCES  
TOPIC TAGS--PAPER PRODUCT, INDUSTRIAL PRODUCTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/1349  
CIRC ACCESSION NO--AP0138359  
STEP NO--GE/0091/70/019/004/0107/0108  
UNCLASSIFIED



"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002203010008-5

272 006  
CIRC ACCESSION NO--AP0138359  
ABSTRACT/EXTRACT--(U) GP-0-  
WAS DISCUSSED WITH RESPECT  
VNIIB, LENINGRAD, USSR.

UNCLASSIFIED

PROCESSING DATE--04DEC70  
ABSTRACT. A LECTURE WITH NO REFS. THE TOPIC  
FACILITY:

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002203010008-5"